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Applicant(s): **Brian G. Rowell**

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Abdelnour, Dennis J.

Group Art Unit
3681

Invention: **Planetary Gear Carrier Assembly**

I hereby certify that this **Response to Notice of Non-Compliant Amendment**
(Identify type of correspondence)

is being deposited with the United States Postal Service as first class mail in an envelope addressed to:
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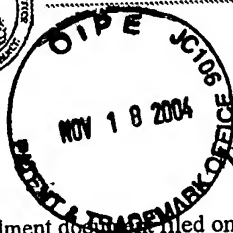
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Notice of Non-Compliant Amendment (37 CFR 1.121)

The amendment document filed on 9.30.04 is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121. In order for the amendment document to be compliant, correction of the following item(s) is required. **Only the corrected section of the non-compliant amendment document must be resubmitted (in its entirety), e.g., the entire "Amendments to the claims" section of applicant's amendment document must be re-submitted.** 37 CFR 1.121(h).

THE FOLLOWING CHECKED (X) ITEM(S) CAUSE THE AMENDMENT DOCUMENT TO BE NON-COMPLIANT:

- ☐ 1. Amendments to the specification:
- ☐ A. Amended paragraph(s) do not include markings.
 - ☐ B. New paragraph(s) should not be underlined.
 - ☐ C. Other _____
- ☐ 2. Abstract:
- ☐ A. Not presented on a separate sheet. 37 CFR 1.72.
 - ☐ B. Other _____
- ☐ 3. Amendments to the drawings: _____
- ☒ 4. Amendments to the claims:
- ☐ A. A complete listing of all of the claims is not present.
 - ☐ B. The listing of claims does not include the text of all pending claims (including withdrawn claims)
 - ☐ C. Each claim has not been provided with the proper status identifier, and as such, the individual status of each claim cannot be identified. Note: the status of every claim must be indicated after its claim number by using one of the following 7 status identifiers: (Original), (Currently amended), (Canceled), (Withdrawn), (Previously presented), (New) and (Not entered).
 - ☒ D. The claims of this amendment paper have not been presented in ascending numerical order.
 - ☒ E. Other: last two claims are numbered wrong.

For further explanation of the amendment format required by 37 CFR 1.121, see MPEP Sec. 714 and the USPTO website at <http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/officeflyer.pdf>.

If the non-compliant amendment is a **PRELIMINARY AMENDMENT**, applicant is given ONE MONTH from the mail date of this letter to supply the corrected section which complies with 37 CFR 1.121. Failure to comply with 37 CFR 1.121 will result in non-entry of the preliminary amendment and examination on the merits will commence without consideration of the proposed changes in the preliminary amendment(s). This notice is not an action under 35 U.S.C. 132, and **this ONE MONTH time limit is not extendable.**

If the non-compliant amendment is a reply to a **NON-FINAL OFFICE ACTION (including a submission for an RCE)**, and since the amendment appears to be a *bona fide* attempt to be a reply (37 CFR 1.135(c)), applicant is given a TIME PERIOD of ONE MONTH from the mailing of this notice within which to re-submit the corrected section which complies with 37 CFR 1.121 in order to avoid abandonment. **EXTENSIONS OF THIS TIME PERIOD ARE AVAILABLE UNDER 37 CFR 1.136(a).**

If the amendment is a reply to a **FINAL REJECTION**, this form may be an attachment to an Advisory Action. The period for response to a final rejection continues to run from the date set in the final rejection, and is not affected by the non-compliant status of the amendment.

Pauline R. Harrier
Legal Instruments Examiner (LIE)

703-305-3550
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IN THE CLAIMS

Please amend the claims as follows:

1. (original) A planetary gear carrier assembly for an automatic transmission of a land vehicle, said carrier assembly comprising:

a carrier housing including a first mating section and a second mating section, said first mating section including a central access opening having an inside diameter of a predetermined dimension, said first mating section further including at least one semicircular cutout formed coextensively with an inner surface of said access opening;

a set of planetary gears rotatably mounted in coplanar relation within said carrier housing and intermediate said first and said second mating sections; and

a replacement thrust bearing residing at a location within said carrier housing accessible only through said access opening, said replacement thrust bearing having an outside diameter greater than said inside diameter of said access opening and less than a linear dimension measured between said inside diameter and said cutout permitting said replacement thrust bearing to pass through said opening in alignment with said cutout after assembly of said carrier housing.

2. (original) The planetary gear carrier assembly of Claim 1 wherein said thrust bearing is a radial roller bearing having at least fifty-two roller elements.

3. (currently amended) The planetary gear carrier assembly of Claim 2 wherein said roller elements measure at least 0.157 inches ~~providing at least a 30% increase in bearing contact surface~~ in comparison to an original equipment thrust bearing having roller elements measuring 0.110 inches providing a corresponding increase in dynamic load rating ~~an outside diameter less than said access opening.~~

4. (original) The planetary gear carrier assembly of Claim 1 wherein said replacement thrust bearing is piloted by a counterbore formed within an interior surface of said second mating section of said carrier housing.

5. (original) A planetary gear carrier assembly for an automatic transmission of a land vehicle, said carrier assembly comprising:

a planetary carrier housing including a first mating section and a second mating

section, said first mating section including a central access opening having an inside diameter of a predetermined dimension, said first mating section further including a pair of opposed semicircular cutouts formed coextensively with an inner surface of said access opening;

a set of planet gears rotatably mounted in coplanar relation within said carrier housing and intermediate said first and said second mating sections; and

a replacement thrust bearing residing at a location within said carrier housing accessible only through said access opening, said replacement thrust bearing having an outside diameter greater than said inside diameter of said access opening and less than a linear dimension measured between said semicircular cutouts permitting said replacement thrust bearing to pass through said opening in alignment with said cutouts after assembly of said carrier housing.

6. (original) The planetary gear carrier assembly of Claim 5 wherein said replacement thrust bearing is a radial roller bearing having at least fifty-two roller elements.

7. (currently amended) The planetary gear carrier assembly of Claim 6 wherein said roller elements measure at least 0.157 inches ~~providing at least a 30% increase in bearing contact surface~~ in comparison to an original equipment thrust bearing having roller elements measuring 0.110 inches providing a corresponding increase in dynamic load rating ~~an outside diameter measuring less than said access opening.~~

8. (original) The planetary gear carrier assembly of Claim 5 wherein said thrust bearing is piloted by a counterbore formed within an interior surface of said second mating section of said carrier housing.

9. (original) An improved planet carrier assembly of the type having a carrier housing including a first mating section and a second mating section, said first mating section including an access opening of a predetermined dimension, a set of planet gears rotatably mounted in coplanar relation within said carrier housing and intermediate said first and said second mating sections, and an original equipment thrust bearing for installation within said housing, wherein said bearing is installed through said access opening, the improvements comprising:

a modified carrier housing wherein said first mating section includes a pair of diametrically opposed semicircular cutouts formed coextensively with said access opening; and

a replacement thrust bearing having an increased surface contact area and dynamic load rating in comparison to the original equipment thrust bearing, said replacement thrust bearing having an outside diameter greater than said access opening and less than a linear dimension measured between said semicircular cutouts thereby permitting said replacement thrust bearing to pass through said opening in alignment with said cutouts after assembly of said carrier housing.

10. (original) The planetary gear carrier assembly of Claim 9 wherein said replacement thrust bearing is a radial roller bearing having at least fifty-two roller elements.

11. (currently amended) The planetary gear carrier assembly of Claim 10 wherein said roller elements measure at least 0.157 inches ~~providing at least a 30% increase in bearing contact surface~~ in comparison to the original equipment thrust bearing having roller elements measuring 0.110 inches providing a corresponding increase in dynamic load rating ~~an outside diameter measuring less than said access opening.~~

12. (original) The planetary gear carrier assembly of Claim 9 wherein said replacement thrust bearing is piloted by a counterbore formed within an interior surface of said second mating section of said carrier housing.

13. (original) A method of manufacturing a planetary gear carrier assembly having a plurality of planet gears installed therein for use in an automatic transmission, said method comprising the steps of:

providing a first mating section of a planetary carrier housing including an access opening and a second mating section of said carrier housing;

joining said mating sections to assemble said planetary carrier housing;

machining diametrically opposed semicircular cutouts within an inside diameter of said access opening such that a linear dimension measured between said semicircular cutouts is greater than said inside diameter; and

inserting a thrust bearing having an outside diameter larger than said inside diameter of said access opening and less than said linear dimension into said housing via said semicircular cutouts.

14. (original) The method of Claim 13 wherein the step of joining further includes the step of:

capturing said planet gears intermediate said first mating section and said second mating section in rotatable engagement therein.

15. (original) The method of Claim 14 wherein the step of capturing is carried out by weldment of said first and second mating sections.